



City of Chattanooga
Rainwater Management Guide (RMG) – Addendum # 2
Effective Date – 08/30/2019

This Addendum shall be used in conjunction with the December 1, 2014 edition of the City of Chattanooga's *Rainwater Management Guide* (RMG) to regulate Stormwater Control Measure (SCM) design, operation, and maintenance. The latest edition of the *Rainwater Management Guide* can be downloaded at the following web address: <http://chattanooga.gov/public-works/water-quality-program/resource-rain>. The addenda noted below are the City of Chattanooga's additions, clarifications, and exceptions based on the revised City Stormwater Ordinance, approved by Chattanooga City Council on November 21 and 28, 2017, and became effective upon signature by the Mayor and City Council Chairperson, as well as knowledge gained over the past five years of Stormwater Control Measures implementation.

This document shall have an effective date of August 30, 2019.

Revision history:

- Original Rainwater Management Guide – 12/01/2014
- Addendum # 1 – 11/29/2017
- Addendum # 2 – 8/30/2019



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08-30-19
Date



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8-30-19
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Manufactured Treatment Device Information

Overview

City Code 31-313(4)(F) allows Manufactured Treatment Devices (MTD) as a treatment option for 80% TSS removal where infeasibilities exist and have been documented and approved. All MTDs must be NJCAT verified. This supplement to the RMG describes the City's process of applying NJCAT verified devices to meet this rule. This Addendum is being published in order to clear-up misunderstandings by engineers, suppliers, and manufacturers regarding application of MTDs to meet this rule.

Definition:

Stormwater Manufactured Treatment Devices (MTDs) are manufactured devices that treat stormwater by one of several technologies, including, but not limited to, gravitational separation or filtration, before it is discharged offsite or to receiving water bodies, and may be incorporated into a series of one or more stormwater control measures (SCMs) known as a treatment train to remove pollutants from stormwater runoff.

Ordinance background & intent

During the drafting, review and approval of 31-313(4)(F), Water Quality staff researched various widely accepted methods of MTD approval. The staff recommendation, subsequently recommended by the Stormwater Regulations Board (SWRB) and adopted by City Council, was written with the intent to utilize MTDs that were verified by NJCAT following an NJDEP testing protocol. NJDEP certification was not required in order to allow developers and their engineers to select from a wider array of products to meet the 80% TSS removal requirement. The administrative intent is to allow use of MTDs up to the verified removal efficiency without the artificial efficiency cap placed on such devices when certified by NJDEP. Strict adherence to the latest NJDEP testing protocol was not deemed to be significantly important. Verified technologies approved by NJCAT following earlier NJDEP protocols were deemed sufficient for the purposes of the Chattanooga Water Quality Program.

Application of NJCAT Verification Database

The City of Chattanooga Land Development Office will compare the submitted MTD information to the NJCAT verification website (see <http://njcat.org/verification-process/technology-verification-database.html>). Refer to RMG Addendum #1 for Site Infeasibilities and Procedures.

1. Search the website page sections labelled "Laboratory Verified and NJDEP Certified" or "Laboratory Verified" for the specified product.
 - a. In the event these section names are changed in the future by NJCAT, the corresponding names assigned by NJCAT shall be used in place of the listed categories without the need for future revisions to this addendum or the RMG.
 - b. If the product is not listed in the stated sections, it is assumed to not be NJCAT verified.
 - c. Devices may be listed in multiple sections. Listing in more than one section does not negate inclusion in the sections listed above.
 - d. Devices listed exclusively in other sections are not permissible.

2. In the column to the far right labeled "Link to Report," download the corresponding device report.
3. Device selection by Design Engineer
 - a. All devices listed in the "Laboratory Verified and NJDEP Certified" section will be approved by the City.
 - b. For devices listed in the "Laboratory Verified" section without corresponding NJDEP certification, the Design Engineer must review the report and determine the test protocol used to verify the product or device. Only devices that have been tested using the New Jersey Department of Environmental Protection (NJDEP) stormwater manufactured treatment devices (MTD) laboratory test protocols and procedure for verification by New Jersey Corporation for Advanced Technology (NJCAT) for 1-1,000 microns will be approved by the City. (see <http://www.njcat.org/> for additional details)
 - c. For devices meeting subsection a) or b) above, the Design Engineer shall review the associated report and determine the weighted TSS removal rate. This information must be listed by the Design Engineer on the Manufactured Treatment Device Submission form attached as Exhibit 1 to this addendum. The form must be completed in full and submitted as part of a Land Disturbance Permit (LDP) application.
4. Within the report, find the section with the Maximum Treatment Flow Rate (MTFR), usually in cubic feet per second (cfs), and the Weighted Annualized TSS Removal Efficiency. This TSS removal rate for the MTFR is the amount allowed by the City of Chattanooga. (Note that the TSS removal rate may be greater than 50% since Chattanooga is not limited by New Jersey state law to limit a maximum of 50% TSS removal for HDS devices.)
5. Allowable flow rates for different sizes of devices shall be determined using the "Verification Appendix," usually found near the end of the "NJCAT Technology Verification Report" for that device. For additional information see **NJDEP Laboratory Test Protocols and Verification Procedure: NJCAT Interpretations**, Section 6: Scaling, for the specific device type. <http://www.njcat.org/uploads/docs/NJCATInterpretations-LabTestProtocols%20June%202017.pdf>
6. Oversizing devices to achieve higher TSS removal is not allowed.
7. Oversizing devices to reduce cleaning frequency is allowed.

Use of non-verified MTD

Use of any non-NJCAT verified MTD to meet 80% TSS removal required by City Code Section 31-313 (4)(F) is not allowed.

Small Site Control TSS Compliance

Sites that qualify for Small Site Controls shall follow one of the TSS provisions under 31-313(4)(F) to be deemed in compliance with 31-313(3)(C).

Treatment Train

1. When a MTD is specified to achieve compliance with 31-313(4)(F), credit will be given for the full weighted TSS removal rate as identified according to this document.
2. If the weighted TSS removal rate equals or exceeds 80.00% no additional SCM is required for compliance with 31-313(4)(F).
3. If the weighted TSS removal rate is less than 80.00%, the Design Engineer must subtract the weighted TSS removal rate from 80.00% to determine the remaining amount of TSS removal required to comply with 31-313(4)(F). One or more additional SCMs must be selected by the Design Engineer and incorporated into the site design for submission with the LDP application to achieve at least 80.00% TSS removal.
4. Specifying a second MTD in series is only acceptable if the second MTD utilizes filtration. Specification of two hydrodynamic separators in series will not be approved to achieve compliance.

Exhibit 1

 Manufactured Treatment Device Submission Form	
Project Address:	Previously Approved Infeasibility #:
Manufacturer:	Model Number or Name:
Size or Diameter:	Weighted TSS removal rate:
Design inflow rate (cfs):	Maximum Treatment Flow Rate (cfs):
NJCAT verified (Y/N)	NJDEP Certified (Y/N)
Remaining TSS removal required:	Other SCM specified:
Engineering Firm Submitting Form:	Engineer stamp/seal/signature: